

## Self-Reported Stress: Findings from the 1985 National Health Interview Survey

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### Synopsis.....

*The National Health Interview Survey's 1985 Health Promotion and Disease Prevention Questionnaire included questions on the amount of stress experienced in the past 2 weeks, the effect of stress on health, thoughts about seeking help for personal or emotional problems, and actual help-seeking behaviors. This report examines responses*

*to these questions and analyzes self-reported levels of stress by sex and other respondent characteristics.*

*In 1985, an estimated 34 million people aged 18 years and older experienced "a lot" of stress in the 2-week period preceding the interview. Women were more likely than men to report a lot of stress (23 percent versus 18 percent), and respondents 65 years of age or older were more likely than younger respondents to report "almost no" stress. An estimated 21 million people (13 percent) believed that, over the past year, stress had "a lot" of effect on their health.*

*Seventeen percent of the population considered seeking help in the past year for personal or emotional problems from family, friends, helping professionals, or self-help groups. Sixty-nine percent of those who thought about seeking help reported that they actually did seek help.*

*In terms of health practices, men and women who reported higher levels of stress than others of their sex also were more likely to report that they rarely or never ate breakfast, slept 6 or fewer hours per night, were physically less active than their peers, or drank more alcoholic beverages than usual in the 2 weeks prior to the survey.*

THE TERM "STRESS" HAS BECOME ubiquitous in American culture and pervades not only the mental health literature, but also the popular press. However, a precise and agreed-upon definition of stress that is applicable for clinical or research purposes has yet to be developed (1). There is little doubt that stress exists, but generalizations are difficult because stress affects different people in different ways and at different times.

Even in the absence of an agreed-upon definition of stress, researchers have demonstrated an association between stress and disease (2) and suggested the importance of stressful situations and life events as factors affecting our health and daily functioning (3). Such associations, however, may be very complex. For example, some internal or external situations can produce stress that results in good outcomes, while others can lead to

negative outcomes. Examples of negative outcomes include shortness of breath; increased perspiration; loss of self-confidence; frequent anger or frustration; increased use of alcohol, tobacco, or drugs; decline in productivity; and absenteeism from work (4).

The manner in which individuals perceive and react to stress is of great interest to researchers, practitioners, and policymakers. This concern is reflected in one of the 1990 objectives for the nation which states that "By 1985, surveys should show what percentage of the U.S. population perceives stress as adversely affecting their health, and what proportion of the population is trying to use appropriate stress control techniques" (5). To achieve this objective, a number of questions related to stress were asked in the Health Promotion and Disease Prevention Questionnaire

*'Even in the absence of an agreed-upon definition of stress, researchers have demonstrated an association between stress and disease and suggested the importance of stressful situations and life events as factors affecting our health and daily functioning.'*

Table 1. Distribution of reported stress by sex, respondents in the 1985 Health Promotion and Disease Prevention Survey

Reported stress <sup>1</sup>	Men		Women	
	Number	Percent	Number	Percent
Total .....	78,083,000	100.0	87,630,000	100.0
A lot .....	13,916,000	17.8	19,760,000	22.5
Moderate .....	24,786,000	31.7	26,715,000	30.5
Relatively little ..	17,682,000	22.7	20,061,000	22.9
Almost none .....	21,699,000	27.8	21,094,000	24.1

<sup>1</sup>Level of self-reported stress in 2 weeks prior to the survey.  
NOTE: Weighted data.

(HPDPQ) of the 1985 National Health Interview Survey (NHIS).

Based on responses to these questions, we examine self-reported levels of stress, self-reported health effects of stress, and help-seeking behaviors of men and women related to personal and emotional problems. Also, we analyze the association between level of stress and selected respondent characteristics in an attempt to understand the public's perception of stress and its effect on health.

## Methods

**Data source.** Data for this study were taken from the HPDPQ of the 1985 NHIS, a nationwide household survey of the civilian, noninstitutionalized population aged 18 years and older. The NHIS is conducted by the National Center for Health Statistics (NCHS). Details of the NHIS sampling procedures, the characteristics of the HPDPQ sample, and the weighting of the data to make national estimates are provided elsewhere (6). It is important to note that the tables presented in this paper exclude missing stress data (about 1.2 percent of the weighted cases) and data

from persons who reported that they did not know what stress is (1.8 percent).

**Stress-related items in the HPDPQ.** The stress section of the HPDPQ included the following questions:

1. During the past 2 weeks, would you say that you experienced a lot of stress, a moderate amount of stress, relatively little stress, or almost no stress at all?

2. In the past year, how much effect has stress had on your health—a lot, some, hardly any, or none?

3a. In the past year, did you think about seeking help for any personal or emotional problems from family or friends?

3b. In the past year, did you think about seeking help for any personal or emotional problems from a helping professional or self-help group?

4. Did you actually seek any help? From whom did you seek help?

No attempt was made in the HPDPQ to define what was meant by the term "stress" or to establish criteria for the levels of stress. Thus, the findings are influenced by the respondents' understanding of what stress is, how it is measured, and how it affected their health. Also, "personal or emotional problems" indicated in questions 3a and 3b are not necessarily synonymous with stress, and no attempt was made to relate these problems to stress when the questions were asked.

## Results

**The experience of stress.** Table 1 shows that about 75 percent of the HPDPQ respondents reported having experienced at least some stress in the 2 weeks preceding the survey, and roughly half of the respondents experienced "a lot" or "a moderate amount" of stress in this period.

Women were more likely than men to report a lot of stress (23 percent versus 18 percent). Applying the sample weights to the data, these figures imply that nearly 14 million men and nearly 20 million women aged 18 years or older experienced "a lot" of stress in any given 2-week period. Another 51 million persons experienced "a moderate amount" of stress.

**Sociodemographic characteristics.** Table 2 presents the percent distribution among levels of reported

Table 2. Percent distribution of reported stress by sex and selected sociodemographic characteristics, respondents in the 1985 Health Promotion and Disease Prevention Survey

Characteristics	Men's reported stress <sup>1</sup>				Women's reported stress <sup>1</sup>			
	A lot	Moderate	Relatively little	Almost none	A lot	Moderate	Relatively little	Almost none
Total .....	18	32	23	28	23	31	23	24
<i>Age</i>								
18-29 years .....	20	34	24	22	23	32	25	20
30-44 years .....	22	37	22	19	27	35	22	16
45-64 years .....	17	31	22	30	23	31	22	25
65 years or older .....	7	15	22	56	14	20	22	43
<i>Education</i>								
Less than 12 years .....	14	20	22	44	21	21	22	37
12 years .....	15	30	26	29	22	31	25	23
13 years or more .....	22	40	21	17	25	37	21	17
<i>1984 Family income</i>								
Less than \$5,000 .....	21	28	20	31	27	23	20	30
\$5,000-\$6,999 .....	17	26	16	40	20	23	21	37
\$7,000-\$9,999 .....	18	22	24	36	22	25	22	32
\$10,000-\$14,999 .....	16	25	22	37	22	28	24	27
\$15,000-\$19,999 .....	16	27	25	33	22	28	23	27
\$20,000-\$24,999 .....	16	31	25	29	22	33	22	23
\$25,000-\$34,999 .....	17	36	23	25	21	34	25	20
\$35,000-\$49,999 .....	20	38	22	21	24	37	23	16
\$50,000 and over .....	20	40	22	18	26	36	22	17
<i>Employment status<sup>2</sup></i>								
Currently employed .....	20	36	23	22	26	36	22	16
Unemployed .....	26	20	28	26	23	33	22	23
Other <sup>3</sup> .....	17	27	24	33	22	27	24	26

<sup>1</sup>Level of self-reported stress in 2 weeks prior to the survey.

<sup>2</sup>For those less than 65 years of age.

<sup>3</sup>No job or not in the labor force.

NOTE: Weighted data. Row percentages may not sum to 100 because of rounding.

stress by selected sociodemographic characteristics. Sex differences in the proportion of respondents who reported a lot of stress appeared to increase with age. For example, table 2 shows that, while the difference between men and women aged 18 to 29 years was only 3 percentage points, the difference for persons aged 65 and older was 7 percentage points. Women aged 65 years and older were twice as likely to report a lot of stress as men in the same age group.

Table 2 also shows that there was a slight tendency for respondents with more years of formal education and a greater family income in 1984 to report higher levels of stress. However, men and women with family incomes under \$5,000 reported a lot of stress at about the same rate as the highest two income groups. This observation suggests that the relationship between self-reported levels of stress and family income is U-shaped rather than linear.

Among persons under 65 years of age, women who were currently employed tended to report

somewhat higher levels of stress than women who were either unemployed or not in the labor force. For men under 65 years, the findings were nearly reversed. Men who were unemployed were more likely to report a lot of stress than men who were either currently employed or not in the labor force.

**Stress effects on health.** The percentages of men and women in the population who believed that stress had "a lot," "some," or "hardly any or no" effect on their health in the past year follow:

Sex	<i>Effects of stress on health</i>		
	A lot	Some	Hardly any, none
Men.....	9	29	62
Women.....	16	33	50
Total...	13	31	56

Thirty-eight percent of the men and 49 percent of the women reported that stress had some or a

Table 3. Percent distribution of reported effect of stress on health by sex and level of stress, respondents in the 1985 Health Promotion and Disease Prevention Survey

Stress effect on health in last year	Men's reported stress <sup>1</sup>				Women's reported stress <sup>1</sup>			
	A lot	Moderate	Relatively little	Almost none	A lot	Moderate	Relatively little	Almost none
Total .....	100	100	100	100	100	100	100	100
A lot .....	27	9	4	3	39	17	7	4
Some .....	39	42	26	10	38	45	32	16
Hardly any, none .....	35	50	70	87	23	38	62	80

<sup>1</sup>Level of self-reported stress in 2 weeks prior to the survey. NOTE: Weighted data. Columns may not sum to 100 percent because of rounding.

lot of effect on their health during the past year. Using a more stringent criterion, the corresponding figures for men and women reporting that stress had a lot of effect on their health were 9 and 16 percent, respectively. More than half of the total population thought that stress had hardly any or no effect on their health in the past year. Since the interview questions did not specify that the health effects had to be negative, it is possible that some respondents attributed positive health effects to stress.

Other analyses (not shown) indicated that respondents 65 years of age or older were less likely than younger respondents to report that stress had "a lot" of effect on their health (11 percent versus 19 percent). However, as noted earlier, older respondents also were less likely to report that they had experienced higher levels of stress. These findings regarding sex and age suggest that the greater the amount of stress experienced, the greater the perception of effects. Consistent with this proposition, table 3 indicates that men and women who reported higher levels of stress in the 2 weeks prior to the survey were more likely than others of their sex to report that stress had a lot of effect on their health in the past year.

**Help-seeking behaviors.** Estimates of the percentages of men and women in the population who thought about seeking help for their personal or emotional problems and the percentages who actually sought help follow:

Thought about seeking help from—	Men	Women	Total <sup>1</sup>
Family, friends .....	11	18	15
Professional, self-help group .....	8	14	11
Any source <sup>2</sup> .....	13	21	17
Sought help .....	8	14	11

<sup>1</sup>Of entire study sample.

<sup>2</sup>Respondents could answer "yes" to both sources of help providers, such as family or friends and help professionals or self-help groups. Therefore, the percentages under "any source" do not equal the sum of the 2 separate sources for help.

Women were more likely than men to report that they thought about seeking help for personal or emotional problems. Respondents of both sexes were somewhat more likely to think about seeking help from family members or friends rather than from helping professionals or self-help groups, but the differences were not large.

Table 4 indicates that, among respondents who thought about seeking help, about 68 percent of the men and 69 percent of the women reported that they actually sought help. Apparently, the sex differences in thinking about seeking help do not extend to the act of seeking help. However, among those who thought about seeking help, older respondents (those aged 45 and older) were somewhat more likely to seek help than younger respondents (68 percent versus 72 percent).

Table 4 also indicates that thoughts of seeking help increased with increasing levels of stress among both men and women. For women, however, the threshold level of stress for triggering thoughts of seeking help appeared to be lower than that for men. For example, among those reporting a moderate amount of stress, 26 percent of the women had thought of seeking help, compared with only 15 percent of the men.

**Health practices.** The relationship between a broad spectrum of day-to-day health practices and physical health has been examined extensively in a series of studies conducted in Alameda County, CA. For example, Belloc and Breslow (7) examined the relationship of common health practices (hours of sleep, regularity of meals, physical activity, smoking, and drinking) to physical health status. Good health practices (for example, no smoking, moderate drinking, 7 to 8 hours of sleep a night, regular exercise, and eating breakfast daily) were shown to be associated positively with physical health status. The effects also were found to be cumulative; that is, the greater the number of positive health

Table 4. Percent of persons who thought about seeking help, by source, and those who actually sought help according to sex and self-reported stress level, respondents in the 1985 Health Promotion and Disease Prevention Survey

Help-seeking behavior	Men's reported stress <sup>1</sup>				Women's reported stress <sup>1</sup>			
	A lot	Moderate	Relatively little	Almost none	A lot	Moderate	Relatively little	Almost none
Thought about seeking help:								
Family, friends .....	24	12	7	3	36	22	11	5
Professional, self-help group .....	17	9	5	3	28	16	8	4
Any source .....	28	15	8	4	41	26	13	6
Actually sought help <sup>2</sup> .....	68	67	62	73	71	68	66	72

<sup>1</sup>Level of self-reported stress in 2 weeks prior to the survey.

<sup>2</sup>Of those who thought about seeking help.

NOTE: Weighted data. The complement of each cell is the percentage of persons not thinking about help or not seeking help, as appropriate.

Table 5. Percent distribution of reported stress by sex and selected health practices, respondents in the 1985 Health Promotion and Disease Prevention Survey

Health practices	Men's reported stress <sup>1</sup>				Women's reported stress <sup>1</sup>			
	A lot	Moderate	Relatively little	Almost none	A lot	Moderate	Relatively little	Almost none
Total .....	18	32	23	28	23	31	23	24
Eat breakfast:								
Almost daily .....	15	30	24	31	19	30	24	27
Sometimes .....	19	33	23	26	24	31	24	22
Rarely or never .....	23	34	20	23	29	31	20	20
Snack:								
Almost daily .....	20	33	21	26	24	32	23	21
Sometimes .....	16	32	25	27	20	31	24	24
Rarely or never .....	17	29	23	31	23	28	21	28
Sleep:								
6 or less hours .....	26	33	20	22	32	30	19	20
7-8 hours .....	16	33	24	27	20	32	24	24
9 or more hours .....	12	22	22	43	19	27	23	31
Smoking status:								
Current smoker .....	21	31	21	27	28	30	21	21
Former regular smoker .....	16	30	23	31	22	34	23	21
Former occasional smoker .....	18	32	23	27	29	24	20	27
Never smoked .....	17	34	24	26	20	30	24	27
Drinking status:								
Less than 12 drinks in lifetime .....	12	25	23	40	18	22	24	36
Less than 12 drinks any 1 year .....	13	27	22	39	21	29	23	27
Drinker .....	19	33	23	26	25	34	22	20
Drank more in past 2 weeks than typical <sup>2</sup> :								
Yes .....	23	39	20	19	30	35	20	15
No .....	18	33	23	26	24	33	23	20
Consider self to be:								
Overweight .....	19	35	22	25	24	31	22	22
Underweight .....	22	30	22	27	29	24	23	24
About right weight .....	16	30	24	30	20	30	24	26
Trying to lose weight:								
Yes .....	20	36	21	23	24	33	22	21
No .....	17	31	23	30	21	29	24	27
Exercise or play sports regularly:								
Yes .....	17	35	23	25	23	33	23	21
No .....	18	30	22	30	23	29	23	26
Active as age group:								
More active .....	19	31	22	28	24	31	21	25
About the same .....	15	31	23	30	19	30	25	26
Less active .....	24	35	22	20	28	32	21	19

<sup>1</sup>Level of self-reported stress in 2 weeks prior to the survey.

<sup>2</sup>Drinkers only.

NOTE: Weighted data. Row percentages may not sum to 100 because of rounding.

*'Finally, even though stress, health, and social functioning relationships are documented in the research literature, the public's awareness of specific risk factors related to stress may be quite limited. Public education efforts may need to be increased . . . '*

practices reported, the better the respondent's physical health. Also, the association between positive health practices and better physical health was found to be independent of age, sex, and economic status.

Health practices reported in the HPDPQ were examined according to levels of stress in order to identify techniques that might be useful for stress management. Table 5 presents the percent distribution of reported stress levels by selected health practices. Regardless of sex, persons who rarely or never eat breakfast were more likely than others to report a lot of stress; the same pattern was true of persons who sleep 6 or fewer hours per night and those who are less physically active than their peers. Also, among drinking men and women, those who drank more than usual in the 2 weeks prior to the survey were more likely than others of their sex to report a lot of stress during the same period.

Women who were current smokers and those who were former occasional smokers were more likely than women overall to report a lot of stress. Reporting a lot of stress were 28 percent of women who were current smokers, and 29 percent of women who were former occasional smokers, compared with 23 percent of all women. Also, men and women who drank less than 12 drinks of alcoholic beverages a year in their lifetime (total abstainers) were less likely than others of their sex to report a lot of stress. Such findings, however, are confounded with age, since abstainers tend to be older than those who drink (8).

## Summary and Discussion

The stress section of the HPDPQ provides researchers, practitioners, and policymakers with an opportunity to examine the public's perception of stress, the perceived effects of stress on health,

and the public's help-seeking behaviors in relation to a wealth of other data in the survey. These initial results suggest that women are more likely than men to report higher levels of stress and to seek help for personal or emotional problems. However, when level of stress was controlled, there were no sex differences on the propensity to seek help for personal or emotional problems.

Further, higher levels of reported stress and thinking about seeking help for personal or emotional problems appear to be negatively associated with age, regardless of sex. This observation raises the question of possible denial among older respondents, since older persons are thought to be more vulnerable to stress (5). However, since the HPDPQ excludes institutionalized persons, the results on self-reported stress could be quite different for an institutionalized sample.

Many other questions also arise from these initial analyses of stress among the general population of adults. For example, it is interesting to speculate about what the self-reported levels of stress would have been if both a definition of stress and criteria for determining levels had been provided. A discriminate analysis will be conducted on the HPDPQ responses in the near future to determine whether respondents can be characterized differentially according to their reported levels of stress. Also, the HPDPQ includes selected questions on respondents' health conditions; these data will be analyzed with self-reported stress in a separate study.

The findings we present relating level of stress to personal health practices are suggestive, but much more information is needed about the public's specific behaviors related to stress management. Although several poor health practices were associated with high stress levels, the present analyses do not permit causal inferences. Also, a direct measure to answer the question "What proportion of the population uses appropriate stress control techniques?" (5) was not provided in the present survey.

Finally, even though stress, health, and social functioning relationships are documented in the research literature, the public's awareness of specific risk factors related to stress may be quite limited. Public education efforts may need to be increased (a) to educate the public concerning the various symptoms of stress, (b) to promote awareness of the potential health and social consequences of stress, and (c) to provide the public with effective mechanisms by which stress can be managed.

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## 1985 NHIS Findings on Public Knowledge and Attitudes About Oral Diseases and Preventive Measures

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## Synopsis.....

*Two objectives for the nation for 1990 set goals related to the need for schoolchildren and adults to understand the causes of oral diseases and methods of prevention. Five questions related to these objectives were included in the 1985 National Health Interview Survey.*

*Survey responses of adults ages 18 years and older indicated that while the public is generally aware of the importance of a number of factors in the prevention of tooth decay, only 18 percent had both heard of, and knew the purpose of, dental sealants. At the same time, the public fails to discriminate between effective disease preventive factors related to periodontal diseases as opposed to those related to dental decay. Knowledge of oral disease prevention modalities generally varies across educational, income, age, and racial categories. However, there appears to be little variation in knowledge by gender.*

*Additional information from upcoming surveys may shed more light on the relationships between knowledge of oral diseases and their prevention and personal preventive practices.*

**T**O DATE, NATIONWIDE INFORMATION on the knowledge and attitudes about oral diseases and their prevention on the part of the general public has been extremely limited. Findings from two studies conducted by the National Opinion Research Center in 1959 and 1965 suggested that

more than half of the respondents brushed their teeth to protect them from dental decay and about one-third brushed in order to feel good or to have fresh breath (1,2). Dental decay prevention was still the predominant reason identified by respondents for brushing in a 1966 survey of family